
EFFECT OF SURFACE

and colloid phenomena on properties of fresh concrete

The symposium was attended by about 50 people, with heavy representation from abroad (Japan, People's Republic of China, United Kingdom, France, Belgium, Denmark). Four invited papers were presented, by Professors Sing (Brunel University), Tattersall (University of Sheffield), Roy (Pennsylvania State University) and Young (University of Illinois). They were supplemented by papers on such aspects of concrete rheology as instrumentation, testing and applications, effect of chemical admixtures, effect of mineral admixtures and basic scientific aspects.

The science of rheology as applied to fresh concrete technology is not completely developed. This is caused by the complexity of the materials used in concrete (cement, sand, aggregate, water and chemical and mineral admixtures) and by the dynamic character of the system. With time, chemical processes of hydration lead to physico-chemical (including rheological) changes which, in turn, affect the concrete behavior both in the fresh and the hardened stage. It is because of this complexity that the symposium has been attended by a very healthy mixture of scientists as well as technologists.

In the discussion following the



J.P. Skalny (left), Martin Marietta, and G.H. Tattersall, University of Sheffield

formal presentations, the participants agreed that before concrete becomes a material successfully competing with other advanced materials (metals, ceramics, plastics), more knowledge has to be generated and transferred into engineering practice. As a topic for materials research, it thus offers both challenge and reward. The symposium organizers, Jan P. Skalny of Martin Marietta Laboratories and Professor Sidney Diamond of Purdue University both agreed that this symposium presented the best of current research in this vital field.

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